

Tom40 (H-7): sc-365466



The Power to Question

BACKGROUND

The mitochondrial preprotein translocases of the outer membrane (Tom) is a multisubunit protein complex that facilitates the import of nucleus-encoded precursor proteins across the mitochondrial outer membrane. The Tom machinery consists of import receptors for the initial binding of cytosolically synthesized preproteins and a general import pore (GIP) for the membrane translocation of various preproteins into the mitochondria. The import receptors include Tom20 and Tom22, which form a heteromeric receptor complex that initiates the insertion of newly synthesized proteins into the outer membrane and then directs the precursor protein into the GIP. In yeast, Tom22 is the essential component of the import receptor complex as it functions as both a receptor for the preproteins and serves as a docking point for both Tom20 and the GIP. Tom22 directly associates with Tom40, the major component of the GIP, and thereby forms a stable interaction between the two core complexes to facilitate the fluid movement of preproteins into the mitochondria. The insertion of Tom40 into the Tom machinery requires the initial binding of Tom40 to Tom20 and leads to the efficient incorporation of Tom40 precursors into preexisting Tom complexes.

CHROMOSOMAL LOCATION

Genetic locus: TOMM40 (human) mapping to 19q13.32; Tomm40 (mouse) mapping to 7 A3.

SOURCE

Tom40 (H-7) is a mouse monoclonal antibody raised against amino acids 62-361 of Tom40 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Tom40 (H-7) is recommended for detection of Tom40 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tom40 (H-7) is also recommended for detection of Tom40 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Tom40 siRNA (h): sc-61697, Tom40 siRNA (m): sc-61698, Tom40 shRNA Plasmid (h): sc-61697-SH, Tom40 shRNA Plasmid (m): sc-61698-SH, Tom40 shRNA (h) Lentiviral Particles: sc-61697-V and Tom40 shRNA (m) Lentiviral Particles: sc-61698-V.

Molecular Weight of Tom40: 40 kDa.

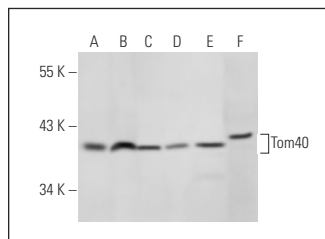
Positive Controls: HEK293 whole cell lysate: sc-45136, HuT 78 whole cell lysate: sc-2208 or HeLa whole cell lysate: sc-2200.

RESEARCH USE

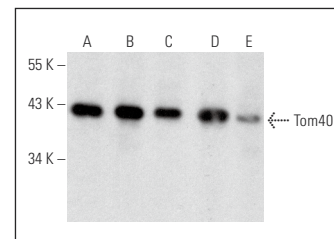
For research use only, not for use in diagnostic procedures.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA

Tom40 (H-7): sc-365466. Western blot analysis of Tom40 expression in HEK293 (A), HuT 78 (B), HeLa (C), A-431 (D), Hep G2 (E) and U-251-MG (F) whole cell lysates.



Tom40 (H-7): sc-365466. Western blot analysis of Tom40 expression in CCRF-CEM (A), Jurkat (B), NIH/3T3 (C), CTLL-2 (D) and RPE-J (E) whole cell lysates.

SELECT PRODUCT CITATIONS

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- Wang, L., et al. 2019. FAM92A1 is a BAR domain protein required for mitochondrial ultrastructure and function. *J. Cell Biol.* 218: 97-111.
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- Lin, B.C., et al. 2021. ALS/FTD mutations in UBQLN2 are linked to mitochondrial dysfunction through loss-of-function in mitochondrial protein import. *Hum. Mol. Genet.* 30: 1230-1246.
- Oleinik, N., et al. 2023. Alterations of lipid-mediated mitophagy result in aging-dependent sensorimotor defects. *Aging Cell* 22: e13954.
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PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.